

# Safety Intervention Strategy And Organizational Safety Performance

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## Abstract

*To better understand the required intervention strategies that enhance staff safety in the workplace and the safety performance of organisations, especially in the Nigerian manufacturing sector has necessitated this study's timely and justification. To collect the necessary data, a self-administered questionnaire was developed for the survey section of the study utilising a five-point Likert scale technique and the "drop-off and pick-up" method. This measure ensures that the questionnaire reflects the researcher's goals. To gather the necessary data for this study, 211 carefully chosen industrial establishments—196 of which were registered and 15 of which were not—from three Nigerian state capitals—Ikeja (Lagos), Akure (Ondo), and Ibadan (Oyo state)—provided a sample of 663 participants. The survey was assessed using the factor analysis analytical method in the Statistical Package for Social Sciences, version 26. Findings revealed that the manufacturing industry's<sup>1</sup> management developed suitable safety intervention strategies to achieve organisational safety performance. Thus recommended that to ensure the long-term sustainability of firms, all aspects of the workplace must be safeguarded through the adoption and implementation of proper safety procedures to provide desired safety results, as this is proven to heighten the safety awareness of the workforce thereby availing the much sort after organisational safety performance..*

**Keywords:** *Intervention; Manufacturing Sector; Organisation; Safety; Performance; Strategy.*

## 1. INTRODUCTION

Depending on one's perspective, there are various ways to interpret the phrase safety intervention strategy (SIS). Nonetheless, SIS explains the systematic identification, evaluation, and control of workplace risks that may jeopardise workers' health and safety (Jilcha et al., 2016). The idea might also be seen in terms of controlling occupational hazards to achieve a respectable degree of well-being (Monyei, Arachie & Ukpere, 2023; Oluwagbemi, 2011). It encompasses all efforts made to improve employees' physical, mental, and emotional health since this affects their behaviour at work and how well the business achieves its objectives (Amponsah & Mensah, 2016). One of the researchers, Bhagawati (2015), argues that SIS directly affects worker welfare, health, and safety, including at work. In essence, all of the definitions given above associate the name "SIS" with the concept of reducing possible hazards to the environment, workers, and anyone impacted by work operations. These findings demonstrate that an intervention strategy for workplace safety is more of a necessity for humans than a luxury (du Plessis, 2017). Therefore, every company must ensure that its workforce and assets are protected from any potential risks associated with their employment (Syed-Yahya, Idris, & Noblet, 2022; Blagoycheva, Andreeva, & Yolova, 2019). This assertion is supported by evidence showing that a large number of workplace accidents are usually avoidable. Previous studies have shown that industrial incidents are recurrent historical events that were disregarded at the

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time due to the damage being considered negligible (Haghighi, Taghdisi, Nadrian et al., 2017). It is asserted that management is quick to disregard safety

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intervention tactics despite prior experiences and multiple suggestions regarding the significance of lowering accidents and putting intervention mechanisms in place. As a result, problems with occupational safety are now recurring (Adeyemi et al., 2016). The majority of workplace accidents are the result of careless safety interventions, which can be brought on by misguided safety beliefs, procedures or work environments, and a deficiency of motivation for safety (Kim, Rahim, Iranmanesh & Foroughi, 2019). According to Umeokafor et al. (2014), careless actions by employees and companies account for 60% of all business event occurrences and are the primary contributing factor in the majority of accidents. These behaviours are frequently sustained by inefficiently completing work and taking shortcuts to boost productivity (Hedlund et al., 2016). According to Syed-Yahya et al., (2022) study, 88% of work accidents are the result of unsafe safety performance. Using outdated equipment and assigning workers to tasks for which they lack the necessary expertise or competence are only two examples of the dangerous conduct that management has consistently been accused of (Adeyemi et al., 2016; Amponsah & Mensah, 2016). Concerns exist over inadequate training, inadequate oversight of job duties, excessive workloads, and other issues, yet many companies still lack the necessary resources to address these shortcomings (Umeokafor et al., 2014). Other similar complaints include their weak commitment to safety actions, their ineffective systems of informing employees, and their failure to implement robust safety intervention strategies and enforcement procedures, among other managerial errors (Adeyemi et al., 2016; Soumen, 2011). Several publications currently in circulation suggest that efficient management procedures, actions, and controls are critical for achieving optimal control over human reactions to hazards. Achieving a balance between work demands and workplace safety is largely dependent on management's proactive attitude to safety intervention concerns, despite the likelihood that productivity maximisation is the focus in many businesses. Adeyemi et al. (2016) state that proactive approaches to the resolution of work-related issues beyond product or service offerings, profitability, and resource allocation can enhance safety intervention in the workplace. According to Lucchini and London (2014), a significant contributing cause to SIS's controversial adoption and the lack of thought given to its application is the hierarchy's view of the majority of enterprises. According to these researchers, the opinions of numerous business executives regarding SIS do have a significant influence on the safety intervention plan that is implemented. For example, the idea is that using SIS will not provide you with a competitive advantage and will cost you extra money. The degree of safety procedures and working environments are thought to be negatively impacted by this impression. It is important to highlight that as a result, SIS is currently seen by many businesses as an afterthought in the hierarchy of goals. The implementation of this measure should only occur when the economy is strong enough to support the higher expenses connected with the necessary intervention measures. Safety failures are complicated, and many factors can impair SIS, according to reports by Demba, Ceesay and Mendy (2013). Demba et al. (2013) argue that because SIS is so complex, it is a problem that requires the careful application of critical strategies and the creation of foundational frameworks to guarantee its long-term viability. The study found that there is frequently a large component lacking that might function as a buffer and increase interest in the important tactics. As per the findings of another investigation, there appears to be an ongoing lack of adherence to workplace standards or reluctance among personnel to engage in safety-related activities due to inadequate safety incentives. Demba et al. (2013) assert that safety intervention motivation is necessary to encourage stakeholders to actively participate in safety practices, even despite the related expenses, given the importance of incentives to behavioural patterns. Encouraging employees to adopt safe behaviours is similarly important, as a stronger safety motivation tends to increase their willingness to do so (Monyei et al., 2023; Chen & Chen, 2014). It is emphasised that an employer's

willingness to take adequate measures for comprehensive health and safety improvements throughout the company and their incentive to communicate their safety objectives can both be strengthened by having a strong safety motivation. There is evidence to suggest that employers may be more inclined to consider the long-term advantages of investing in safety intervention strategies rather than the unavoidable economic implications when they are more motivated. Additionally, it could motivate them to be well aware of its probable limitations, i.e., to acknowledge that there is no assurance that the initial investment in a safety intervention strategy will generate comparable returns shortly or remain viable for years (Salminen & Seo, 2015). On the other hand, businesses are more likely to take deliberate steps to create and maintain a safe workplace when they are sufficiently motivated. As a result of encouraging positive employee behaviours and attitudes as well as improved performance, this is recognised to produce significant long-term non-financial benefits (Kaynak, Toklu, Elci et al., 2016). A prior study (Goldstein, Helmer, & Fingerhut, 2001) attributed SIS's shortcomings to insufficient safety and health regulations. SIS's performance is appalling, particularly in terms of infrastructure and the methodical application of strategies, rather than being prioritised in the overall plan of action. Even though most organisations have policies and procedures in place, a sizable percentage of the workforce works in subpar conditions. As a result, the inquiry needs to be done quickly. That's why this study is relevant.

## **2. LITERATURE REVIEW AND THEORETICAL UNDERPINNING**

### **2.1 Social Exchange Theory (SET)**

Tasks and results associated with occupational endeavours are the linkages that this study looks at. In the literature, there is a wealth of information about workplace efforts that offer theoretical underpinnings for understanding and forecasting relationships with anticipated exchanges and results. As such, social exchange theory (SET) serves as the theoretical cornerstone that sheds light on this interaction. Although many theories promote ambitions for the workplace, SET offers a core framework for analysing work attitudes and expected results in research, which makes it applicable to this study (Gould-Williams, 2007). The recurring mutually reliant and obligation-generating transfers of resources between two or more people is the definition of social exchange relationships, according to Reader et al. (2017). A set of exchanges in which one person is more likely to return the favours of another based on the behaviour received makes SET relevant. These exchanges comprise tasks, expected outcomes, and tactics for achieving the intended goals. This theory shows a wide range of applicability in explaining and predicting various workplace behaviours and exchanges. Combining this with the concepts of safety intervention strategy and organisational safety performance, the basic tenet of the SET is that when an organisation demonstrates genuine concern for the health and safety of its employees—usually demonstrated by providing a safe workplace—workers are more likely to develop implicit obligations to repay the favour by engaging in safe behaviours that improve the organisation through the positive organisational performance they generate. In addition, people might expand their behaviour to complete functions beyond their primary work responsibilities if specified intervention procedures are followed (Neal & Griffin, 2006). It is assumed that employees' opinions on the safety intervention tactics a company uses form the basis of the exchange relationship when it comes to SET's relevance to the safety performance of companies (Oke et al., 2016; Armstrong, 2014). Studies have shown that workers frequently see companies' safety intervention tactics as an expression of the organization's support for them, care for their welfare, value placed on them, and personified long-term dedication to their employees (Reader et al., 2017). Gavino et al., (2012). According to Gavino et al. (2012), employees who positively view such initiatives are more likely to reciprocate the firm's goodwill by demonstrating higher dedication and passion towards reaching stated goals. Employees and employers are likely to act safely when they believe that their actions are valued and will result in sufficient rewards,

according to the theory that underpins these interactions. A framework for the investigated constructs in this study is provided by the reviewed theory.

## **2.2 Safety Intervention Strategy**

The idea of a safety intervention plan relates to the basic occupational safety precautions that companies and employees are usually required to follow or carry out to ensure employee well-being at work. According to Burke and Signal (2010), these precautions include following the organization's rules regarding safety, adhering to established work processes, and performing required safety intervention techniques. Conversely, safety intervention techniques refer to the actions that staff members take throughout a task to foster a supportive and safe work environment rather than because they are required to or advised to do so for their safety. These recognised actions include alerting coworkers to possible threats to workplace safety, taking part in safety planning, demonstrating interest in safety initiatives, and assisting colleagues in avoiding risky behaviour (Burke & Signal, 2010; Vinodkumar & Bhasi, 2010). Extra-role actions are frequently a part of these voluntary risk prevention strategies. Therefore, in contrast to compliance, which is typically ordered, this typically requires incentive factors to pique employees' feelings of obligation to engage in safety tasks (Neal & Griffin, 2002). The importance of improving a company's safety performance is supported by reports, and achieving this goal is frequently impacted by preconditions such as implementing a workable safety intervention strategy. While the variables described above hold significance, research also suggests that providing employees with skills, information, and instant motivation is not enough to encourage compliance practices. The degree to which a safety intervention strategy is implemented within an organisation, particularly with management's supervision, is always correlated with the ability of employees to follow those methods (H). It has been acknowledged that these two elements are separate but connected contextual factors that affect safety performance. It is suggested, for instance, that employees' compliance with safety regulations may not always be ensured by their equipment and high level of expertise; rather, safety results are influenced by employees' motivation and safety awareness (Monyei et al., 2023; Griffin & Neal, 2000). To establish sustainable preventative efforts against risks, management is logically a critical predictor of safety intervention methods and needs to be properly studied. This is so that managers can use their power over organisational difficulties to advance workplace safety. Confirming this, Fernandez-Muniz et al. (2014) discovered that managers' application of safety intervention techniques had a significant impact on workers' attitudes toward safety.

## **2.3 Antecedents of Organisational Safety Performance**

A thorough analysis is necessary to understand the causes of the ongoing unsafe workplace incidents and to look at ways to raise the organization's safety performance (Burke & Signal, 2010). According to Burke & Signal (2010) and Christian et al. (2009), "organisational safety performance" refers to specific outcomes and patterns of behaviour that demonstrate the line of safety and the degree to which established safety protocols are adhered to. It demonstrates a company's beliefs, behaviour, style, or steps made in the direction of good safety performance. This idea of organisational safety performance has generated a great deal of scholarly discussion. As per Ford & Tetrick (2008), it can be characterised as a subset of total job performance that signifies the standard of safe work practices that workers follow while carrying out their job responsibilities. According to Monyei et al., (2023), and Burke and Signal (2010), it also shows the degree to which people behave in a way that makes them and other people safer. According to earlier proponents of organisational safety performance, this could be seen as practices exhibiting concern and actions meant to improve work results and safety circumstances. Some of the intended results of safety performance in companies include the use of personal protective equipment, sharing health and safety information, guaranteeing safety compliance and

involvement, and exercising employee rights and duties (Fugas, Silva, & Melia, 2012). Indicators of organisational safety performance also include tasks like encouraging personal safety, providing feedback to management or colleagues, and participating in safety activities. According to scholarly research, the most practical approach to assess a company's safety performance is to divide its core operations into two unique but connected patterns: safety participation and safety compliance (Hon et al., 2014; Martinez-Córcoles & Stephanou, 2017).

## **2.4 Empirical Insight**

To investigate advancements in workplace safety during the previous 100 years, Hofmann, Burke, and Zohar (2017) conducted a non-empirical analysis. They assert that, in contrast to the high rate of industrial fatalities and injuries in the early 1900s, the century-long focus on workplace safety has preserved many lives. What accounts for the safety gap between the past and the present is changes in safety culture, technology, and job design. The majority of workplace mishaps occur in industrialised and developing countries, particularly in the latter because of hazardous working circumstances, according to the report, which shows that worker safety remains a key concern despite advancements.

The study conducted by Kumie et al. (2016) revealed that the safety intervention method implemented in Ethiopia was difficult to implement, confirming previous findings that developing countries had to give priority to workplace safety and health. According to the report, the majority of employers lack knowledge of SIS, and some prioritise profitability over adhering to safety procedures. Problems include underreporting incidents, lacking enterprise-level local policy statements, lacking development capabilities and experienced workers, and not knowing enough about the regulations governing the successful implementation of SIS.

After looking at safety performance in Ghana, Annan et al. (2015) found that safety intervention management needs to be properly structured within the institutions in charge of overseeing its standard execution, as well as be supported by the national government and the law. Defective national policy and an inefficient safety enforcement agency limit Ghana's efforts to improve safety performance. Because multiple authorities oversee SIS, accountability is unclear.

Utilising a non-empirical study methodology, Orazulike (2016) stated that managing workplace occurrences in Nigeria is challenging due to the intricate relationships between policy, economy, society, and law. When trying to control work-related difficulties through legislation and policy norms, a problem with policy occurs. The failure of the policies that make it difficult to enact and enforce safety standards has resulted in an economic crisis. The legal challenge implies that the statutory duties and obligations outlined in the safety laws are not being followed. Because there are no clear legal requirements, it becomes difficult to guarantee or protect employees' well-being at work.

## **3. RESEARCH METHODOLOGY**

The present study utilised a quantitative research methodology to examine the safety intervention strategy that is required to improve workplace safety performance, specifically from the perspective of the manufacturing sector in Nigeria. A self-administered questionnaire and the "drop-off and pick-up" method were used to collect the necessary data for the survey phase of the study. A five-point Likert scale was employed in the questionnaire's development; the options were strongly disagree (1), disagree (2), agree (4), and strongly agree (5). The study used an already-existing questionnaire—adapted from previous validated surveys—to get participant responses on the subjects addressed by the study constructs. Because it has previously undergone reliability testing and validation in

other investigations, a standard questionnaire was modified for use in this investigation. This tool makes sure that the variables the researcher wants to assess are measured in the questionnaire and that the results are easily replicable. A sample of 663 participants was chosen from 211 carefully chosen manufacturing workplaces in three state capitals of Nigeria, namely Ikeja (Lagos), Akure (Ondo), and Ibadan (Oyo state), to gather the data needed for this study. There were 196 registered and 15 unregistered among these. Throughout the investigation, great care was taken to maintain the employees' identities in compliance with research ethics. Three individuals from each industry were randomly selected to represent participants in the manufacturing workplace who were registered and those who were not using simple random probability sampling and non-probabilistic sampling. To determine the contextual relevance of the questionnaire, researchers assessed the survey's content specificity. The piloting phase involved revalidating the questions and evaluating their applicability to the Nigerian manufacturing sector. Factor analysis (FA) procedures from the Statistical Package for Social Sciences, version 26, were used to test the survey.

#### 4. DATA ANALYSES

**Table 1.** Respondents' Perceptions of Safety Intervention Strategy

Statements (SIS)	Strongly Disagree (SD)	Disagree (D)	Neutral (N)	Agree (A)	Strongly Agree (SA)	Mean	Std. Deviation	Ranking
SIS 1 ← When performing my job, I make use of all required safety equipment.	4.10 %	11.20 %	14.00 %	46.20 %	24.50 %	3.76	1.069	2
SIS 2 → I carry out my work obligations while adhering to the proper safety protocols.	4.50 %	12.60 %	13.10 %	47.60 %	22.20 %	3.7	1.085	4
SIS 3 → I always report to management any issues I come across at work regarding safety.	4.50 %	8.90 %	15.90 %	47.00 %	23.70 %	3.76	1.051	1

SIS 4 → I have obtained sufficient safety training to enable me to evaluate workplace hazards.	3.30 %	15.90 %	13.40 %	45.60 %	21.80 %	3.67	1.08 4	5
SIS 5 → I urge my colleagues to work safely.	5.60 %	13.10 %	12.90 %	41.70 %	26.70 %	3.71	1.15 8	3
SIS 6 → I willingly perform duties or engage in activities that enhance workplace security.	9.20 %	12.30 %	11.90 %	40.90 %	25.70 %	3.62	1.24 6	6
Total						3.70 3	0.90897	

Source: Researcher's fieldwork, 2024.

#### 4.1 Respondents' Views on the Safety Intervention Strategy

To look into the availability and use of safety intervention strategies, respondents' accounts of the variable items are presented in this section. Table 1 above shows examples of these articulated perceptions. Respondent opinions regarding the use of required safety equipment when performing jobs are shown in Table 1, the first safety intervention strategy item (SIS1). Based on this, the results indicate that nearly 15% of the respondents (SD = 4.1% + D = 11.2%), where "SD" indicates strongly disagree and "D" indicates disagreement, did not agree with the statement's assertions. Additionally, the data showed that 71% of respondents agreed that their employer should provide workers with the necessary equipment for safety issues at work (A = 46.2% + SA = 24.5%), with 14% expressing doubt about the statement. Table 1 above shows that a sizable percentage of participants (about 71%) agreed with the SIS1 item, indicating that employers are expected to give staff members the necessary tools to carry out their jobs. Additionally, a higher percentage of employees reported that their employers gave them enough and suitable safety intervention practices to help them handle safety-related issues at work. This is consistent with the response outlook's moderately high mean score of 3.76 1.07, according to the statistical analysis. Regarding the variable item (SIS2), which sought to determine if safety regulations and procedures are appropriately followed when carrying out job activities, the results show that around 17% of participants disagreed with this statement (SD = 4.5% + D = 12.6%). However, over 70% of respondents felt that personnel adhered to safety rules when performing assigned jobs (A = about 48% + SA = approximately 22%), despite 13.1% of respondents having no opinion. The item's high degree of agreement suggests that the majority of employees concur that they follow the guidelines dictating how jobs should be completed. Their responses yielded a reasonably high mean score of

3.70 1.09, indicating that many of the staff members in this study believed that following rules and procedures is necessary to complete tasks efficiently, which supports the high rate of concurrence. Since most employees agreed with the statement, the derived standard deviation score for this comment (3.70 1.09) indicates that workers have a common opinion. The results show that, about the promptness of reporting safety-related issues to management (ST3), almost 13% of the respondents disagreed with the promptness of reporting safety concerns encountered during job completion ( $SD = 4.5 + D = 8.9\%$ ). It also shows that approximately 16% of respondents chose to be neutral about this statement item, whereas approximately 71% of respondents agreed with the assertion ( $A = 47\% + SA = 23.7\%$ ). The majority of respondents seemed to believe that reporting safety-related issues should be given top priority and prompt attention, based on the high percentage of respondents who agreed with this statement. The mean value was found to be 3.76 1.05, which is somewhat high given the positive comments received on this assertion. According to the research, a sizable portion of the workforce thought that safety problems were promptly reported to management. Given that the organisation currently places a high focus on safety concerns, it is possible to further infer from the provided opinions that there would be favourable comments regarding working safely. To address workplace dangers, respondents were asked about their perceptions of their level of safety training in the fourth variable item (SIS4). Approximately 19% of the participants expressed disagreement with the statement ( $SD = 3.3\% + D = 15.9\%$ ). Approximately 13% of the participants had no opinion, however, nearly 67% said they have sufficient training to address risks in the company ( $A = 45.6\% + SA = 21.8\%$ ). The higher positive response rate for this item can be explained by the larger percentage of employees (about 67%) who believed that the guidance and knowledge they received on how to address workplace hazards was sufficient. A mean score of 3.67 1.08 was achieved, which is fairly high and supports the majority's opinion. According to this score, most employees believe their safety training is adequate and will help them avoid potential hazards at work. Additionally, the variable item (SIS5) was used to assess employees' willingness to counsel and motivate peers to work safely. According to the opinions expressed for this statement, 19% of the respondents disagreed ( $SD = 5.6\% + D = 13.1\%$ ) that they counsel and encourage their colleagues to complete duties safely. Although roughly 13% chose to remain neutral in their response, roughly 68% of respondents affirmed that this assertion is achievable ( $SA = 26.7\% + A = 41.7\%$ ). Staff members generally encourage one another to perform their jobs safely, as seen by the large majority of participants who agreed with this statement. On the other hand, a mean score of 3.71 1.16 for the SIS5 item indicated that workers were generally in accord when it came to their propensity to advise and encourage safe behaviour at work. The sixth question examined efforts made voluntarily to enhance workplace safety. As a result, it was found that almost 22% of respondents ( $SD = 9.2\% + D = 12.3\%$ ) disagreed that such behaviours are carried out freely. Approximately 12% of the participants expressed no opinion or remained neutral in response to this remark. Nonetheless, the statement was agreed upon by around 67% of the respondents, with 41.7% agreeing and 26.7% strongly agreeing. The large percentage of respondents (about 67%) who stated that their volunteer work enhances workplace safety adequately indicates that employees are likely to perform voluntary activities that enhance workplace safety. A reasonably high mean value of 3.62 1.25, which is also consistent with the high degree of agreement with the assertion, validated the responses. According to the ratings of the various statements, which were determined using mean assessments (from highest to lowest), the item with the highest mean score (Table 1) was the third variable item (SIS3), which reads, "I always inform management of any safety-related matters that I encounter at my company." With a mean score of 3.62 1.25, item six (SIS6), "I willingly carry out actions or activities that serve to promote workplace safety," was the lowest-ranked statement. The results indicated that respondents tended to agree more often than disagree, as seen by the significant mean scores of 3.62 and above for all the claims. The scores mentioned above suggest that the content of safety intervention measures is where the greatest evaluation of workplace safety appears to be found.

**Table 2.** Perceptions of Organisational Safety Performance

Statements (OSP)	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Mean	Std. Dev.	Ranking
OSP 1 → Leaders have demonstrated qualities that show interest in safety performance.	6.2	19.0	22.5	39.2	13.1	3.34	1.115	5
OSP 2 → Managers communicate the purpose, values, and importance of safety to the organisation's mission.	4.2	13.4	19.5	43.4	19.5	3.61	1.073	2
OSP 3 → Leaders exhibit optimism and confidence about achieving and improving safety performance goals.	4.5	16.1	20.9	43.1	15.4	3.49	1.074	4
OSP 4 → Administrators are always willing to invest resources to develop staff safety abilities.	3.3	15.6	18.4	44.8	17.9	3.59	1.054	3
OSP 5 → Managers support staff creativity in solving safety problems in tasks.	3.7	12.6	17.0	43.8	22.8	3.69	1.071	1
Total						3.542	.9073	

**Source:** Researcher's fieldwork, 2024

#### 4.2 . Respondents' Views of Organisational Safety Performance

This section presents the respondents' opinions of the organization's performance regarding safety. Table 2 above displays their answers on how well the workplace's safety performance was rated. As the table illustrates, the first variable item (OSP1) looked into whether leaders had shown signs of exhibiting an interest in safety performance. According to the responses, around 52% of the participants agreed with the statement (A = 39.2% + SA = 13.1%), whilst approximately 23% had no opinion. As for the statement's claims, roughly 25% disagreed (SD = 6.2% + D = 19%). This explanation, which coincided with the findings, was reinforced by a somewhat high mean (3.34 1.12). This suggests that, despite the seeming disparity in reactions to this assertion, a large number of employees concur that leaders exhibit traits that reveal their commitment to workplace safety. The responses to item OSP2, which stated that "Managers communicate the purpose, values, and importance of safety to the organization's mission," indicate that roughly 18% of respondents disagreed with this statement (SD = 4.2% + D = 13.4%), roughly 20% of respondents were neutral, and roughly 63% of respondents agreed (A = 43.4% + SA = 19.5%). You can find this information in Table 2 above. A sizable portion of participants believed that corporate executives communicate the significance, goals, and values of adhering to the workplace mission, as seen by the replies, which show a rather high mean (3.61 1.07). Item OSP3 also looked into whether management showed optimism and confidence in reaching and exceeding safety performance targets. Hence, according to the data, around 21% of respondents disagreed with the statement (SD = 5% + D = 16%), roughly 21% were indifferent, and roughly 59% agreed (A = 43.1% + SA = 15.4%). Some responders didn't express any opinion. The majority of respondents agreed

with the statement, as seen by the somewhat high mean score of 3.49 1.07 derived from all of their responses. It implies that a higher proportion of employees recognised that management demonstrated hope and assurance regarding the company's accomplishment and enhancement of its safety performance goals. About 19% of respondents disagreed (SD = 3.3% + D = 15.6%) with item OSP4 about administrators' constant willingness to commit resources to staff safety training. Administrators are unwilling to provide resources to employees so they can train them in safety. About 63% of respondents agreed with this claim, whereas about 18% were indifferent (A = 44.8% + SA = 17.9%). These replies were supported by a mean score of 3.59, which was rather high. This indicates that a significant number of respondents (63%) felt that management is prepared to allocate resources to enhance the safety competence of their subordinates. Similarly, OSP5, the variable item, examined whether supervisors encourage staff members' ingenuity in resolving safety-related issues while carrying out activities. The data indicates that approximately 17% of the participants disagreed with the statement, arguing that it was not valid. Fifteen per cent disagreed and four per cent strongly disagreed. In contrast, over 67% of respondents believed that there is substantial support for using creativity to solve workplace problems when it comes to safety issues (A = 43.8% + SA = 22.8%). On the other hand, almost 18% of the employees had no opinion about the statement. With a comparatively high mean score of 3.69 1.07, this data set suggests that employees were more in agreement with supervisors' encouragement of staff members to use creativity to solve safety-related issues while performing their duties. Table 2 presents the ranking position of the variable items used to measure organisational social performance (OSP). It found that OSP5, "Managers support staff creativity in solving safety problems in tasks," was the most widely recognised measure of OSP. OSP1 had the lowest score (3.34 1.12) within the study's context. OSP1, namely: "Leaders have demonstrated qualities that show interest in safety performance." Even though every item on the list has the potential to be used as a tool for measuring organisational safety performance, the listed positions and their reasonably high mean values imply that safety is the foundation for all attainable organisational performance.

### 4.3 Factor Analyses

Before performing a factor analysis (FA), it is customary to ensure that the datasets being utilised are suitable for the procedure in terms of sample size. Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy were often used as diagnostic procedures to verify the acceptability of a dataset due to these requirements. There may be a substantial association between the data if the KMO score is high. KMO tests determine the percentage of variance in the variables that the common variance can explain. By assessing whether the correlation matrix of a dataset is an identity matrix, Bartlett's test of sphericity can be used to determine whether the dataset is suitable for factor analysis. The variables have no relationship with one another, as far as an identity correlation matrix can demonstrate.

**Table 3.** Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity.

KMO and Bartlett's Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
.965	Approx. Chi-Square	Df	Sig
.	21699.405	946	.000

**Source:** Researcher's fieldwork, 2024.

The statistics in Table 3 show that the data employed is compliant with the KMO measure of adequacy required (Kaiser & Rice, 1974). Hair, Black, Babin & Anderson, 2010; Pallant, 2011 state that values close to 0.6 are considered good or acceptable, those in the range of 0.7 and 0.8 are considered satisfactory, and those beyond 0.9 are considered exceptional. This implies that the coefficients in the relevant data must range from 0 to 1. With an excellent KMO score of 0.965, the KMO statistic reported in this study met the sample adequacy condition. The reported Bartlett's test of sphericity index for this study was deemed significant with an index value of 0.000 ( $p < 0.05$ ), by Bartlett's test of sphericity guidelines, which stipulate that the data must contain a significant p-value threshold of less than 0.05. Due to the observed correlation matrix's deviation from an identity matrix at this level of significance, the variables may be related and appropriate for structure discovery (Pallant, 2011). In addition to the numbers, the generated correlation matrix—which is part of the total factor analysis results—contained coefficients of 0.3 and higher. These statistics also offer additional evidence that the 641 analyses conducted for this study were sufficient. Pallant (2011) further states that this statistical position is an appropriate methodological criterion to verify whether the data are appropriate for factor analysis. As stated above, the dataset utilised in this study satisfied the recommended statistical requirements in terms of a suitable correlation and sufficient sample size, making it ideal for factor analysis procedures. It also complied with the specified rules. This suggests that the measures summed up what they were intended to measure. The raw data was subjected to factor analysis (FA) using principal component analysis (PCA), which took into consideration the information that came before it. Finding factors or extracting linear combinations that accurately describe the relationships between the set of variables to be achieved can be done by applying a factorial technique. The varimax rotational approach with Kaiser Normalisation was therefore employed to adopt the Eigenvalue principle, also known as Kaiser's criterion, which is a widely utilised extraction technique. Popular orthogonal rotation technique Varimax rotation effectively reduces the number of variables with substantial loadings on each factor (Pallant, 2011). Apart from that, it allows the produced elements to be presented as uncorrelated, which satisfies the statistical assumption in major statistical analysis. For instance, it provides the basic framework for performing multiple regression analysis, which requires multi-collinearity. The principal concept of factor analysis is exemplified by its capacity to discern significant factors from a multitude of observed variables. The given eigenvalues make it possible to determine the exact percentage of variance in the observed variables that each factor contributes. Although they can be used for other studies, factors in this category should generally be retained because, according to Pallant (2011), any factor with an eigenvalue greater than or equal to 1 ( $\geq 1$ ) shows that it explains more variation than a single observable variable. According to this criterion, Table 4 below lists the retrieved components from the factor analysis that were retained, along with the corresponding eigenvalues.

**Table 4.** Factor Analysis/Extracted Components Using the Total Variance Explained Output

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	19.894	45.215	45.215	5.203	11.826	11.826
2	2.900	6.590	51.805	4.356	9.900	21.726

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
3	1.986	4.515	56.320	4.302	9.778	31.504
4	1.784	4.055	60.374	4.010	9.113	40.616
5	1.301	2.956	63.330	3.721	8.456	49.073
6	1.221	2.776	66.106	3.498	7.951	57.024
7	1.084	2.464	68.570	3.090	7.022	64.046
8	1.006	2.287	70.857	2.997	6.812	70.857
9	.782	1.776	72.634			
10	.717	1.630	74.264			
11	.655	1.488	75.752			
12	.633	1.438	77.191			
13	.562	1.278	78.468			
14	.536	1.218	79.687			
15	.494	1.122	80.809			
16	.487	1.106	81.915			
17	.447	1.016	82.931			
18	.430	.977	83.907			

**Source:** Researcher's fieldwork, 2024.

Eight of the factors or components listed in FA have eigenvalues of one or more, as Table 4 demonstrates. These were the sole elements that satisfied Kaiser's inclusion requirements for factor analyses to proceed and were retained as valid principal components in this investigation. Furthermore, there were variations between the starting eigenvalues and the component eigenvalues after rotation, as indicated by the results (Table 4). According to research, these modifications are typical and expected as a result of the engaged rotation method, which required inserting certain instructions into the SPSS to do factor analysis procedures (Pallant, 2011). Nonetheless, it is mentioned that even though eigenvalues may change slightly, the table's representation of the expected amount of total variance explained should not change. Thus, it would seem that the outcomes are appropriate. Apart from the data presented in Table 4 above, the statistics illustrate the extent to which the various identified dimensions contribute to the explanation of the common variance. The distribution list indicates that the eigenvalues of the eight major components ranged from 1.006 to 19.894, and together they accounted for approximately 70.9% of the total variance. At 19.894, component 1 accounted for more variance (45.2%) than any other component (70.9%); component 2 contributed 6.6% (eigenvalue of 2.900); component 3 contributed approximately 4.5% (eigenvalue of 1.986); component 4 contributed approximately 4.1% (1.784); component 5 contributed approximately 3%, or 2.95% (1.301); the sixth component contributed approximately 2.8% (1.221); the seventh component contributed approximately 2.5% (1.084); and the final component contributed approximately 2.3% (eigenvalue of 1.006). A construct is deemed valid in factor analysis if its total variance explained in the social sciences is 60% or above, according to Hair et al. (2010). According to this concept, the pertinent data in this study's overall variance score of about 71% show that this figure was within the allowable range. It also confirmed that the components that were removed were adequate.

**Table 5.** Pattern/Structure Coefficients of the Extracted Components

Factors	Item	Factor loadings	Eigenvalues	% of Variance
<b>Factor 1: Safety Intervention Strategy (SIS)</b>				
I urge my colleagues to work safely.	SIS 5	.746	2.900	6.590
I perform my work while wearing the required safety gear.	SIS 1	.721		
I have obtained sufficient safety training to enable me to evaluate workplace hazards.	SIS 4	.720		
I willingly participate in duties or endeavours that enhance workplace security.	SIS 6	.692		
I carry out my work obligations while adhering to the proper safety protocols.	SIS 2	.661		
I always report any safety-related issues I come across at work to management.	SIS 3	.633		
<b>Factor 2: Organisational Safety Performance (OSP)</b>				
Leaders exhibit optimism and confidence about achieving and improving safety performance goals.	OSP 3	.663	1.221	2.776
Administrators are always willing to invest resources to develop staff safety abilities.	OSP 4	.624		
Managers support staff creativity in solving safety problems in tasks.	OSP 5	.624		
Managers communicate the purpose, values, and importance of safety to the organisation's mission.	OSP 2	.603		
Leaders have demonstrated qualities that show interest in safety performance.	OSP 1	.531		
<b>Total variance</b>				<b>9.366</b>

**Source:** Researcher's fieldwork, 2024.

Note. Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization

The particular linear combinations of items about each extracted component and the factor loadings on each variable are described in detail in Table 5 above. When using the varimax rotated solution as a rotation approach, it is stated that using this presentation style is strongly desirable to illustrate the loadings and their associated components (Pallant, 2011). According to Table 5, the first component (SIS) accounted for almost 66% (6.59%) of the variance overall (9.366%). It lists six questions (Q-1, Q-2, Q-3, Q-4, Q-5, and Q-6) and has an eigenvalue of 2.90; the values of the remaining sections are all smaller. The solution or extracted constructs have good commonalities, which are supposed to be more than 0.5, as indicated by the cumulative percentage of variance (9.366%). The outcome validates the one-dimensionality of the measures by demonstrating no problems with items loading on one or more variables. For instance, the loaded items on the safety intervention strategy construct (SIS) (which ranges from SIS 1 to SIS 6) matched the assumptions made in the surveys. The sufficient factor loadings on each of the constructs demonstrate the high correlation between the variable items in each factor, which supports the variables' appropriate convergent and discriminant validity. With six specified items and satisfactory loadings (.746; .721; .720; .692; .661; & .633), the safety intervention strategy items (SIS) in particular loaded well on this dimension. To put it another way, products bearing the ST label because it was believed they measured safety training loaded smoothly on the safety training construct; their high loadings were only recorded on this construct, which was the subject of the thought process. This indicates that these variables were highly significant in measuring the various elements that they were designed to measure and had good face

validity. There were no set cut-offs for factor loadings when it came to the suitability of the represented factor loading values. It is recommended that loadings fall between 0.5 and 0.7; item loadings of roughly 0.5 are considered passable, those in the 0.6 threshold range are considered acceptable, factor loadings of 0.7 and higher are seen to be the most optimal, and values above 0.5 are suited for improved outcomes. For studies with sample sizes of more than 120, loadings in the threshold range of 0.5 and more are deemed adequately significant in addition to the recommendations that have already been made. Still, a researcher's judgement, supported by reason, maybe the ideal person to determine the cut-off levels. In this investigation, the cut-off value of 0.5 was selected in light of the recommended tolerable loadings. Consequently, all of the items that had factor loadings of 0.5 or higher were kept. Crucially, to optimise the number of constructs that may be included in the current investigation, items with a minimum value loading of 0.5 were taken into consideration. The argument that removing any item from these categories could not significantly affect the factor loadings that arise is the basis for the choice to leave them in place. In addition, using a 0.5 criterion is consistent with the general rule of thumb. In light of this, the predetermined criteria made it impossible to remove any of the things from the obtained factors unless doing so was necessary. The safety intervention approach (measured with six items) and organisational safety performance (measured with five items) were the two constructs used in this study. A strong dataset has several of its variable items cleanly loaded on a single individual factor, consistently high communalities, and no cross-loadings. The final components were therefore appropriate and strong enough to measure the understudied variables among participants in the current study and the previous studies, as indicated by the confirmed validity of the constructs used in this investigation.

## **5. DISCUSSION OF FINDINGS**

The employees shared their opinions about the safety strategies that are in place in the manufacturing sector. They showed that most manufacturing companies in Nigeria have successfully implemented practices like using the appropriate safety equipment while performing tasks, getting enough safety training in case of workplace or job hazards, and encouraging employees to use their creativity in solving safety issues. Burke and Signal (2010), and Fernandez-Muniz et al. (2014) agree that it can be an effective safety intervention method at many workplaces, provided they are well-designed and carried out, this implies that employees were aware of these practices and could benefit from them to improve safety performance. The unusual persistence of workplace mishaps in Nigeria's manufacturing sector thus raises questions about implementation (Monyei et al., 2023; Hon et al., 2014; Martinez-Córcoles & Stephanou, 2017). The main conclusions drawn from the evidence are as follows: the manufacturing industry's management developed suitable safety intervention tactics to achieve organisational safety performance. By encouraging adequate safety practices in the workplace, these safety intervention tactics help to reduce the high incidence of mishaps. Therefore, the employees of the manufacturing company under investigation stated that they had exhibited the expected safety intervention compliance behaviours and had also taken the necessary steps to enhance overall workplace safety performance (Gavino et al., 2012; Hofmann, Burke & Zohar, 2017; Kumie et al., 2016; Annan et al., 2015; Orazulike, 2016).

### **5.1. Contribution of the Study**

The results of this empirical study make a substantial contribution to the corpus of knowledge already available on organisational safety performance and safety intervention techniques in Nigerian manufacturing. The interest and commitment of employees towards the safety performance of the organisation are influenced by the management's commitment to improving employee compliance and implementing safety intervention measures. The research highlights that the degree of compliance behaviour exhibited by employees will determine how well manufacturing businesses' safety intervention tactics function in terms

of organisational safety.

## 6. CONCLUSION

In addition to the contractual requirement that each stakeholder contribute to workplace safety, it is morally required that they follow practices that advance occupational safety. Because of the OHS scenario in Nigerian workplaces, action must be taken immediately to strengthen safety procedures rather than waiting around. To achieve this, it is necessary to promote an environment of open communication between management and employees. This will enable employees to participate in or accept helpful safety contributions as part of intervention techniques aimed at enhancing organisational safety performance. Crucially, managers of companies, particularly those in the industrial sector, can show their commitment by including a targeted safety plan in their vision and goal statements. By doing these things, subordinates will be encouraged to have the same drive and excitement to accomplish these goals. Notably, it has been noted that demonstrating sincere care for safety interventions has a beneficial effect on both staff views of reaching safety goals and company performance. As a result, it is important to take into account

the conclusions and suggestions made by this study, as safety performance cannot be achieved with any number of intervention techniques.

## 7. RECOMMENDATION

The importance of ensuring occupational safety in the workplace cannot be overstated, particularly in the globalised world of today where most employment involves multiple potentially lethal hazards. Consequently, to ensure the long-term sustainability of enterprises, all aspects of the workplace must be safeguarded through the implementation of proper safety procedures to provide desired results. The cooperative efforts of all administrative levels, agencies, and legal authorities can achieve this. The current study's findings, which are important to note if the state of safety in the manufacturing sector is to be optimised, confirm the legitimacy of such requirements.

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